



National Aeronautics and
Space Administration
Lyndon B. Johnson Space Center
Houston, Texas



Schedule of events

The Space News Roundup provides a detailed listing of Safety and Total Health Day events. Story on Page 3.



Science signing

JSC and the University of Houston sign an agreement to conduct research together. Photo on Page 4.

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JSC's Safety, Total Health Day set for Wednesday

Employees should remain safe during events

The last thing anyone involved in the planning of next week's Safety and Total Health Day wants to see happen is an accident, so organizers and employees are being urged to look for and nip any hazards in the bud.

Safety and Total Health Day is an all-day event Wednesday for civil servants and contractors both on-and off-site. A wide variety of office-specific activities have been planned by managers with optional activities available.

Larry Neu, chairman of the planning committee, said popular attractions could be overwhelmed by people who want to participate. If a booth is crowded, Neu suggests attending other events and stopping back later.

"Please don't create a safety hazard by overfilling Teague Auditorium or conference rooms," Neu said.

Employees are asked not to sit in the aisles or on floors. Most of the seminars at Teague will be simulcast on the JSC Television Distribution System. Televisions are available in many building lobbies and at the cafeterias.

"JSC is striving to make safety and health more meaningful to employees," Neu said. "By allowing employees to tailor their day, we are hoping they will use the day to their best advantage."

Parking and pedestrian traffic could be more of a problem because off site employees may travel on site to attend events, and Neu urges all drivers to be especially careful in parking lots and crosswalks.

"This year we are doing things differently, hoping for increased participation and awareness. Please see **VOLUNTEERS**, Page 4

Shuttle program to echo JSC safety emphasis

In concert with JSC's Safety and Total Health Day, the agency's Space Shuttle Program Office will concentrate on safety and assuring mission success Wednesday.

Program Manager Tommy Holloway decided to echo JSC's focus with shuttle workers from all centers and contractors taking time out to discuss program and safety issues.

"Our emphasis on safety extends to all aspects of the program including office, laboratory, manufacturing, processing, operations and flight environments and to all government and contractor personnel," Holloway said. "We will conduct a programwide focus on safety Oct. 23, in which each person associated with the space shuttle program will focus on safety and mission assurance."

Holloway has instructed his managers to

reschedule any program or project meetings and spend the day with employees discussing the program status, reviewing safety issues, answering questions, and focusing on the hands-on job required to fly the shuttle.

"Work will continue as appropriate, but all elements of the workforce should be involved in this activity," Holloway said. "Activities will be structured toward each work element and situation. With the proper emphasis, I believe this time will be well spent in assuring the continued safe operations of the shuttle."

Holloway said safety remains a priority in the program and that in spite of significant delays, NASA has flown 11 flights successfully.

"We have done this with 30-40 percent less resources than in 1991, while maintaining Please see **HOLLOWAY**, Page 4



NASA Photo

Columbia completes the short journey from Kennedy Space Center's Orbiter Processing Facility Bay 1 to the Vehicle Assembly Bldg. During its approximately one-week stay inside the VAB, Columbia was mated to its external tank and solid rocket boosters. Rollout to Launch Pad 39B was completed Wednesday, where the two primary payloads for STS-80—the Wake Shield Facility and Orbiting and Retrievable Far and Extreme Ultraviolet Spectrograph-Shuttle Pallet Satellite—were installed. Liftoff on the final shuttle flight of 1996 is targeted for no earlier than Nov. 8.

Inspection to give industry 'up-close' look

For two days in November, JSC will open its doors to business leaders who want to get an "up-close" look at the center's technologies, facilities and programs.

The JSC Inspection, planned for Nov. 13-14, is designed to showcase technologies and expertise that may have commercial applications with more than 100 exhibits and programs in 17 buildings.

"This event will be an excellent opportunity to see our technical advances, discuss activities with our engineers, scientists, and managers and meet with counterparts in indus-

try and the public sector," said JSC Director George Abbey.

An overview of JSC's major programs and technology developments will be available in Bldg. 9 North. Business representatives will learn about a meteorite that may harbor evidence of primitive life on Mars, get a broad look at JSC's Technology Transfer and Commercialization activities and learn how to do business with NASA. There also will be mock-up tours and demonstrations of robotic and virtual reality equipment under development.

Astronaut and flight control train-

ing will be examined in Bldg. 5, with a tour of the shuttle and station training facilities and demonstrations of a robotics prototype trainer and virtual environment training techniques.

Advanced life support equipment will be the focus in Bldg. 7, where everything from air and water purification to the Electronic Cuff Checklist for space walkers to advances in plant growth and artificial soils development will be showcased.

Manufacturing technology such as rapid prototyping and manufacturing systems will be in Bldg. 9 South,

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Columbia rolls to launch pad; payloads await

By James Hartsfield

Preparations for the launch of STS-80 entered the home stretch this week as *Columbia* was moved to Kennedy Space Center's Launch Pad 39B and aimed at a liftoff perhaps as early as Nov. 8.

Columbia was rolled out of the Vehicle Assembly Bldg. early Wednesday and the STS-80 crew, Commander Ken Cockrell; Pilot Kent Rominger; and Mission Specialists Tammy Jernigan, Tom Jones and Story Musgrave, will travel to KSC Tuesday for a dress rehearsal of the launch countdown. A liftoff targeted for 1:47 p.m. CST Nov. 8 would lead to a landing at 6:31 a.m. CST Nov. 24 at KSC.

Shuttle managers will meet for a Flight Readiness Review on Oct. 25 to assess all launch preparations, after which an official launch date will be set. The vertical payloads for STS-80 were moved to Pad 39B late last week in preparation for the arrival of *Columbia*. *Columbia* will carry two free-flying satellites aloft on STS-80, the Wake Shield Facility for its third trip to orbit and the ORFEUS-SPAS astronomy satellite for a second trip to space. Two space walks will be performed by Jernigan and Jones during the mission as part of a continuing series designed to test space walk-

ing construction and maintenance techniques for the International Space Station.

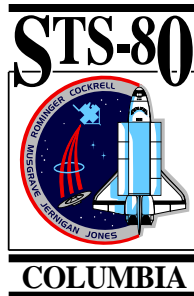
Meanwhile, in KSC's Bay 3 processing facility, *Atlantis* is being readied for a mid-January launch on STS-81, the fifth shuttle-Mir docking mission. Work this week included installation of replacement auxiliary power units and functional testing of the orbital maneuvering systems.

Monday, technicians will begin removing *Atlantis'* main engines used on STS-79; new engines are to be installed starting Nov. 5. The STS-81 crew, Commander Mike Baker; Pilot Brent Jett; Mission Specialists John Grunsfeld, Marsha Ivins and Jeff Wisoff, and Mir researcher

Jerry Linenger, who will relieve astronaut John Blaha aboard the Russian station, will travel to KSC on Nov. 9 to check out crew equipment being installed aboard *Atlantis*.

Elsewhere, *Discovery* is being readied for the second Hubble Space Telescope servicing mission, STS-82 in January.

Work on *Discovery* this week included completing tests of the remote manipulator system robotic arm and installation of the main engines. The cargo bay doors were closed to allow work on thermal blankets to be performed next week.



Mir crew conducts survey of themselves, environment

Cosmonaut John Blaha is now into his fourth week on the Russian space station, extending a permanent American presence in space and continuing to collect data on a variety of experiments on his scientific agenda to learn more about how the human body responds to long periods in microgravity.

Blaha and his Mir 22 crewmates, Commander Valery Korzun and Flight Engineer Alexander "Sasha" Kaleri, all have been busy with a variety of on-board investigations, including a weekly survey of their personal interaction so that scientists on the ground can study changes in attitudes and leadership roles during a long spaceflight, along with the physical changes the body undergoes while in space. The questionnaires are part of the Crewmember and Crew-

Ground Interactions investigation, and are also being filled out by the Russian and American ground crews.

Samples of the microbial environment inside Mir are being collected. Samples of air, water, spacecraft surfaces and the crew members' skin should help researchers understand the microbial ecology of Mir, including bacterial, fungi and some viruses. This week, the crew also participated in a NASA exercise program with the Metabolic Gas Analyzer System, measuring individuals' metabolic responses to exercise and how they change over time.

Blaha harvested more of the dwarf wheat plants this week as part of the Greenhouse

experiment that is studying the effects of space flight on plant development. The plants were collected and preserved in formaldehyde for their eventual return to Earth. Plants may play a critical role in sustaining human life on future space flights.

Today marks Blaha's 33rd day in space since his launch last month on the space shuttle *Atlantis*, his 30th as a member of the Mir 22 crew. Combined with Astronaut Shannon Lucid's 179 days on the Mir, Americans have now been living and working on board the orbiting Russian outpost for 209 continuous days.

Blaha is scheduled to remain on Mir until *Atlantis* returns during STS-81 in January,

when he will be relieved by Astronaut Jerry Linenger, who is now in the final phases of his Mir training at the Gagarin Cosmonaut Training Center in Star City, Russia.

Linenger's successor on Mir, Astronaut Mike Foale, continued his training in Star City this week as well, and has now been fitted for his Russian space suits. Other successors, including Astronauts Wendy Lawrence, slated to go to Mir next September, and David Wolf, slated to go in January 1998, are now in the early stages of their studies on Mir systems and also are concentrating on their Russian language skills. Rounding out the Star City contingent is Astronaut Jim Voss, currently training as a back-up crew member to the other Americans in line to continue the joint U.S.-Russian mission on board Mir.

